



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

May 13, 2011

Mr. Jon A. Franke, Vice President  
Crystal River Nuclear Plant (NA1B)  
15760 West Power Line Street  
Crystal River, FL 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 – NRC TEMPORARY INSTRUCTION 2515/183  
INSPECTION REPORT 05000302/2011010

Dear Mr. Franke:

On April 29, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Crystal River Unit 3, using Temporary Instruction 2515/183, "Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results which were discussed on April 28, 2011, with you and other members of your staff.

The objective of this inspection was to promptly assess the capabilities of Crystal River Unit 3 to respond to extraordinary consequences similar to those that have recently occurred at the Fukushima Daiichi Nuclear Station. The results from this inspection, along with the results from this inspection performed at other operating commercial nuclear plants in the United States, will be used to evaluate the U.S. nuclear industry's readiness to safely respond to similar events. These results will also help the NRC to determine if additional regulatory actions are warranted.

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any findings and violations identified by the NRC as a result of this inspection will be documented in a separate report. You are not required to respond to this letter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of

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NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA/***

Daniel W. Rich, Chief  
Reactor Projects Branch 3  
Division of Reactor Projects

Docket No. 50-302  
License No. DPR-72

Enclosure: Inspection Report 05000302/2011010  
w/Attachment: Supplemental Information

cc w/encl. (See next page)

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Letter to John Franke from Daniel W. Rich dated May 13, 2011

SUBJECT: CRYSTAL RIVER UNIT 3 – NRC TEMPORARY INSTRUCTION 2515/183  
INSPECTION REPORT 05000302/2011010

Distribution w/encl:

C. Evans, RII EICS

L. Douglas, RII EICS

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-302

License No.: DPR-72

Report No.: 05000302/2011010

Licensee: Progress Energy (Florida Power Corporation)

Facility: Crystal River Unit 3

Location: Crystal River, FL

Dates: March 23, 2011 – April 29, 2011

Inspectors: R. Reyes, Resident Inspector  
T. Morrissey, Senior Resident Inspector  
N. Childs, Resident Inspector  
L. Suggs, Reactor Inspector  
J. Dymek, Reactor Inspector

Approved by: D. Rich, Chief,  
Reactor Projects Branch 3  
Division of Reactor Projects

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000302/2011010, 03/23/2011 – 04/29/2011; Crystal River Unit 3 Temporary Instruction 2515/183 – Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event

This report covers an announced Temporary Instruction inspection. The inspection was conducted by the Resident and two Regional Inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006."

## **INSPECTION SCOPE**

The intent of the TI is to provide a broad overview of the industry's preparedness for events that may exceed the current design basis for a plant. The focus of the TI was on (1) assessing the licensee's capability to mitigate consequences from large fires or explosions on site, (2) assessing the licensee's capability to mitigate station blackout (SBO) conditions, (3) assessing the licensee's capability to mitigate internal and external flooding events accounted for by the station's design, and (4) assessing the thoroughness of the licensee's walk downs and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. If necessary, a more specific follow-up inspection will be performed at a later date.

## **INSPECTION RESULTS**

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report.

Enclosure

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats, committed to as part of NRC Security Order Section B.5.b issued February 25, 2002, and severe accident management guidelines and as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh). Use Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," Section 02.03 and 03.03 as a guideline. If IP 71111.05T was recently performed at the facility the inspector should review the inspection results and findings to identify any other potential areas of inspection. Particular emphasis should be placed on strategies related to the spent fuel pool. The inspection should include, but not be limited to, an assessment of any licensee actions to:

Licensee Action	Describe what the licensee did to test or inspect equipment.
<p>a. Verify through test or inspection that equipment is available and functional. Active equipment shall be tested and passive equipment shall be walked down and inspected. It is not expected that permanently installed equipment that is tested under an existing regulatory testing program be retested.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee identified active and passive equipment that is used for implementation of B.5.b actions and any additional equipment used in Severe Accident Management Guidelines (SAMGs). Permanent plant equipment that is tested under existing testing programs was not re-tested. The licensee identified surveillances, tests, and performance frequencies for the identified equipment and reviewed the results of recent tests. Active equipment within the scope defined above that did not have recent test results was tested. Passive equipment within the scope was walked down and inspected.</p>
	<p>Describe inspector actions taken to confirm equipment readiness (e.g., observed a test, reviewed test results, discussed actions, reviewed records, etc.).</p>
	<p>The licensee's review in this area was completed prior to the start of the NRC TI 2515/183 inspection. The inspectors assessed the licensee's reviews and capabilities by conducting the following: 1) a review of the licensee's documented walk down activities; 2) an inspection of the all the B.5.b procedures that were reviewed by the licensee; 3) selected several B.5.b procedures and completed a table top review with the licensee; and 4) reviewed work orders and corrective actions documents that were written as a result of the licensee's reviews.</p> <p>In addition, the inspectors reviewed inventory and maintenance records of required B.5.b equipment. The inspectors verified the equipment was being properly stored, maintained, and tested in accordance with the licensee's B.5.b program procedures. The inspectors performed a walk-down of the storage and staging areas for the B.5.b equipment to verify that equipment identified for use in the procedures were available, calibrated and maintained. In the presence of licensee staff, the inspectors conducted an independent</p>



	<p>audit and inventory for a sample of required equipment and a visual inspection of the dedicated credited power and water source.</p> <p>The inspectors reviewed a recently completed surveillance of the designated B.5.b trailer mounted portable power independent pump (PIIP). Procedure PT-911, PPIP-1 Performance Test, is performed bi-monthly. The inspectors noted that the licensee presently does not test the PPIP using the suction from the intake canal due to issues associated with a required environmental permit. The test is done by pressurizing the suction side of the pump. This method does not test the priming pump and the suction hoses. The inspectors found however, that the PPIP had been tested at least twice in the past with the hoses connected to the suction and using the water source taken from the intake canal. The surveillance documents for those tests were reviewed and verified by the inspector to have been completed satisfactorily. The suction hoses were verified to be available at the location of the pump. The licensee initiated nuclear condition report (NCR) 461043 to resolve the issues with the environmental permit to perform the test using a hose at the suction side of the pump and using water from the intake canal and/or discharge canal.</p> <p>Discuss general results including corrective actions by licensee.</p> <p>Equipment (active and passive) that is required to implement B.5.b and severe accident management guidelines was inventoried, inspected or tested and verified by the licensee to be in applicable procedures. All passive equipment was walked down and verified to be in place and ready for use. Passive equipment which had surveillance or preventative maintenance tasks had those activities performed to verify readiness for use. All active equipment located at the site was verified in place by the licensee.</p> <p>During 5-inch fire hose testing, the licensee identified that the 4-inch hoses on the foam trailer that could be used for Emergency Management (EM) Procedures EM-913, Integrated Response For A Large Area Fire, or EM-913A, Large Area Fire Resulting In Loss Of Control Room Command and Control Functions, were not tested utilizing the licensee's preventive maintenance program. The 4" hoses were tested by the fossil side of the Crystal River Energy Complex. The licensee preferred to have this testing within their work controls program and entered this issue into their corrective action program as NCR 454194.</p>
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Licensee Action	Describe the licensee's actions to verify that procedures are in place and can be executed (e.g. walkdowns, demonstrations, tests, etc.)
<p>b. Verify through walkdowns or demonstration that procedures to implement the strategies associated with B.5.b and 10 CFR 50.54(hh) are in place and are executable. Licensees may choose not to connect or operate permanently installed equipment during this verification.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>Licensee actions included the identification of those procedures utilized to mitigate the consequences of a B.5.b related event and severe accident mitigation. The licensee completed a walk down of all the procedures and given the circumstances of particular strategies, the licensee verified the equipment and tools were available so that the procedures could be executed.</p>
	<p>Describe inspector actions and the sample strategies reviewed. Assess whether procedures were in place and could be used as intended.</p>
	<p>The licensee's actions were completed prior to the start of the NRC TI 2515/183 inspection. The inspectors assessed the licensee's capabilities by conducting a review of the licensee's walk down activities. In addition, the inspectors selected procedures walked down by the licensee and independently verified the licensee's conclusions.</p> <p>The inspectors reviewed Accident Assessment Guidelines AAG-05, Contingencies For Loss Of SF Pool Level, Enclosure 12, Spray Of The SF Pool From The Discharge Canal. The inspectors verified the licensee had completed an adequate review of this procedure. The inspector walked down the piping, verified the tools such as fittings and nozzles were available, and that a saw was available to cut a hole through the spent fuel pool building wall. The inspectors walked down the spent fuel pool floor to verify the B.5.b staged nozzles were available to provide water flow into the spent fuel pool. As a result of this review, it was recommended that the discharge hose be protected from sharp metal edges made when the hole has been cut. This was documented by the licensee in NCR 00458239.</p> <p>The inspectors completed a detailed review and walk down of procedure AAG-05, Contingencies For Loss Of SF Pool Level, Enclosure 13, Makeup Via Fire Hose From The Portable Power Independent Pump (PPIP). The inspectors table topped the procedure with</p>

	the responsible licensee personnel, walked down the PPIP, and verified all equipment, including a hauling truck, was available to transport the PPIP to the discharge canal. The hose material and the total amount of available hose length were verified to be adequate for taking suction from the intake or discharge canal. Additionally, all fittings and nozzles as described in the procedure were verified to be available to satisfactorily execute the procedure.
	Discuss general results including corrective actions by licensee.
	The licensee reviewed the SAMG strategies and did not identify any significant issues. Procedures used for B.5.b were reviewed by the licensee and walkdowns were performed by operators to ensure actions taken in the field in response to a B.5.b event could be performed. The licensee identified numerous enhancements and some corrections to the procedures which will help facilitate execution of the procedures. These items were entered into the licensee's corrective action program.

Licensee Action	Describe the licensee's actions and conclusions regarding training and qualifications of operators and support staff.
c. Verify the training and qualifications of operators and the support staff needed to implement the procedures and work instructions are current for activities related to Security Order Section B.5.b and severe accident management guidelines as required by 10 CFR 50.54 (hh).	Licensee actions included the identification of training or qualification requirements for operators, fire brigade, emergency response organization (ERO), and new employees for the implementation of actions needed to mitigate a B.5.b related event. Each training component included initial, as well as requalification cycle training. The TRF000 module trains the Fire Brigade and the members are re-qualified on a 3 year cycle. The EPI0013C and EPI0015C modules are training for ERO positions and the members are re-qualified every 2 years. The EPI0016C module is for the Radiation Monitoring Team and the members are re-qualified annually. OPS-5-1068, OPS-5-1069, and OPS-5-1073 are operations training modules to provide oversight of the B.5.b procedures, all re-qualification training occurs on a 2 year cycle.
	Describe inspector actions and the sample strategies reviewed to assess training and qualifications of operators and support staff

	<p>The inspectors reviewed applicable training of staff as well as credited procedures used for strategy implementation. The inspectors reviewed training records of the licensee's staff to verify that operator training or familiarity with the strategy objectives and implementing guidelines were accomplished according to the established training procedures.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>No significant issues were identified by the licensee. However, as a result of the licensee's documentation reviews, walk downs, and NRC inspections, the licensee wrote several NCRs to implement improvements to their program.</p>

Licensee Action	Describe the licensee's actions and conclusions regarding applicable agreements and contracts are in place.
<p>d. Verify that any applicable agreements and contracts are in place and are capable of meeting the conditions needed to mitigate the consequences of these events.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>Licensee actions included the identification of all applicable agreements committed to be in place for the mitigation of a B.5.b related event. The licensee verified that the agreements were current. Additionally, via telephone communication the licensee verified with their vendors and providers that the required offsite equipment described in the agreements were available.</p>
	<p>For a sample of mitigating strategies involving contracts or agreements with offsite entities, describe inspector actions to confirm agreements and contracts are in place and current (e.g., confirm that offsite fire assistance agreement is in place and current).</p>

	<p>The inspectors reviewed the following agreements to confirm they were in place and were current:</p> <ul style="list-style-type: none"> <li>• Nature Coast EMS , Emergency Medical Services</li> <li>• Board Of County Commissioners Department Of Fire Rescue, Fire Suppression And Rescue Support</li> <li>• Seven Rivers Community Medical Center</li> <li>• Citrus Memorial Hospital</li> </ul>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>The licensee confirmed that the required services and offsite equipment was available as described in agreements with their vendors and providers. However, for some services or equipment (services) the licensee identified there were no formal agreements or contracts in place. These included the services provided by: Florida Division of Forestry; Gainesville Regional Airport; MacDill Air Force Base; Williams Fire and Hazard Controls, Inc; Godwin Pumps; and Carrier Rental Systems. The licensee wrote NCR 454679 to investigate and determine if formal agreements or contracts for each of these services are necessary.</p>

Licensee Action	Document the corrective action report number and briefly summarize problems noted by the licensee that have significant potential to prevent the success of any existing mitigating strategy.
<p>e. Review any open corrective action documents to assess problems with mitigating strategy implementation identified by the licensee. Assess the impact of the problem on the mitigating capability and the remaining capability that is not impacted.</p>	<p>The licensee wrote the following NCRs:</p> <p>461043, NRC identified, Resolve the issues with the environmental permit to test PPIP</p> <p>454194, Testing of 4-inch hoses at the Crystal River Unit 3</p> <p>454679, Determine if formal agreements or contracts are necessary</p>

03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions, as required by 10 CFR 50.63, "Loss of All Alternating Current Power," and station design, is functional and valid. Refer to TI 2515/120, "Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22" as a guideline. It is not intended that TI 2515/120 be completely reinspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:

Licensee Action	Describe the licensee's actions to verify the adequacy of equipment needed to mitigate an SBO event.
a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.	<p>Licensee actions included the identification of equipment utilized or required for mitigation of a SBO. The licensee completed their annual inventory of the Emergency Operating Procedure (EOP) and Abnormal Procedure (AP) Tool Boxes. The licensee conducted walkdowns of this equipment to ensure they were adequate and properly staged. Additionally, the licensee conducted a review of open CAP items for potential SBO equipment impact.</p>
	Describe inspector actions to verify equipment is available and useable.
	<p>The inspectors reviewed the licensee's completed inventory procedure. The inspectors independently verified that the door stops were available for performance of EOP-12, Station Blackout.</p>
	Discuss general results including corrective actions by licensee.
	<p>The licensee's reviews verified that SBO equipment was available to respond to a SBO condition.</p>

Licensee Action	Describe the licensee's actions to verify the capability to mitigate an SBO event.
<p>b. Demonstrate through walkdowns that procedures for response to an SBO are executable.</p>	<p>Licensee actions included the identification of procedures required for response to a SBO, along with verification that the identified procedures were current and that no critical revision requests were in place. The licensee then verified that the mitigating procedures had been properly validated. Additionally, the licensee also conducted a review of open CAP items for potential impact to SBO procedures.</p>
	<p>Describe inspector actions to assess whether procedures were in place and could be used as intended.</p>
	<p>The inspectors assessed the licensee's capabilities by conducting a review of the licensee's walk down activities and procedure reviews. In addition, the inspectors selected procedures walked down by the licensee and independently verified the licensee's conclusions. The inspectors reviewed emergency operating procedure EOP-12, Station Black Out, and abnormal procedure AP-770, Emergency Diesel Generator Actuation, with a senior reactor operator to verify some of the licensee's conclusions.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>With the exception of door stops and keys, all equipment required to perform the station black out procedures is installed plant equipment. The licensee did not identify any issues that required entering into the CAP.</p>



03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design. Refer to IP 71111.01, "Adverse Weather Protection," Section 02.04, "Evaluate Readiness to Cope with External Flooding" as a guideline. The inspection should include, but not be limited to, an assessment of any licensee actions to verify through walkdowns and inspections that all required materials and equipment are adequate and properly staged. These walkdowns and inspections shall include verification that accessible doors, barriers, and penetration seals are functional.

Licensee Action	Describe the licensee's actions to verify the capability to mitigate existing design basis flooding events.
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>Licensee actions included the identification of equipment, tools, barriers, and penetration seals that are required for mitigation of internal and external flooding. The licensee completed a detailed review of the Crystal River Unit 3 internal and external flooding analysis as documented in the design basis for the station. Engineering developed a focused inspection plan for inspection of internal flood protection equipment.</p> <p>The licensee walked down the flood protection procedures to verify that required materials were not degraded, penetration gaps were within acceptable tolerances, and materials were properly staged. Doors, barriers, and penetration seals that were utilized for mitigation of flooding were identified, and checked to see if they were routinely inspected to ensure functionality.</p> <p>The licensee completed inspections and measurements on the encapsulation sleeve vertical and horizontal gaps for the raw water system and circulating water system. The inspections were intended to verify flood rates would not exceed a maximum of seven inches in the auxiliary building within a 30 minute period for operator action to be credited as described in the internal flood protection analysis.</p> <p>During the inspection period the licensee completed the annual hurricane preventive maintenance (PM) work orders that inspected, tested or repaired external doors, barriers, and penetrations to verify the flood protections measures met the sealing requirements for worst case flood levels due to hurricanes. The licensee inspected the emergency diesel generator underground fill line fuel caps to verify the seals were adequately installed and prevented water from entering into the emergency diesel generator fuel tanks.</p>

	<p>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</p> <p>The inspectors assessed the licensee's capabilities to mitigate flooding by observing the licensee's execution of inspections and preventive maintenance (PM) activities on flood protection equipment. The inspectors observed the licensee perform most of the internal and external flood protection inspections and PMs. Inspections and PMs for equipment used for external flood protection, for a design basis worst case hurricane, on doors, barriers and penetrations were observed and verified to meet acceptance criteria as described on the procedures and work orders.</p> <p>The inspectors observed engineering complete their focused inspections on the internal flood protection equipment. The inspectors independently assessed the licensee's conclusions. For other flood protection inspections, the inspectors reviewed a sample of the licensee's documents to verify the licensee's conclusions. Additionally, the inspectors conducted independent walkdowns of selected flood mitigation equipment to verify the licensee's conclusions.</p> <p>The inspectors observed maintenance personnel perform inspections on the emergency diesel generator fuel tank fill connections. The inspectors identified that the licensee did not complete an adequate inspection of the fill connections. Maintenance was not clear which gasket to inspect on the fill connection. They were inspecting the actual gasket on the cap, when the intent was to inspect the coupling gasket. Maintenance had only planned to inspect two of the three "fill connections" and stated that they never inspect the third connection as the instructions were not clear. The licensee wrote NCR 456801 to address these issues. Once the work order instructions were corrected, all three fill lines were inspected on each tank and no issues were identified with the seals.</p> <p>Discuss general results including corrective actions by licensee.</p> <p>The licensee identified that some as-found raw water and circulating water encapsulation sleeve gap tolerances were too large and exceeded the design requirements. As a result of the larger gaps, a greater leak flow rate into the auxiliary building would cause the flood rate to increase. This in turn could challenge the 30-minute period that is credited for operators to take action to stop the leak into the auxiliary building. The licensee entered this issue</p>
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	<p>into the corrective action program as NCRs 456729 and 457510. The licensee completed a reportability review and determined that the issues were not reportable. This issue is being reviewed by the resident inspectors and the results will be documented in a separate inspection report.</p> <p>With the exception of the results relating to the encapsulation sleeve gap issues, the licensee's verification of flood mitigation capability concluded that the systems, structures, and components were inspected or tested and were in acceptable condition.</p>
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<p>03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. Assess the licensee's development of any new mitigating strategies for identified vulnerabilities (e.g., entered it in to the corrective action program and any immediate actions taken). As a minimum, the licensee should have performed walkdowns and inspections of important equipment (permanent and temporary) such as storage tanks, plant water intake structures, and fire and flood response equipment; and developed mitigating strategies to cope with the loss of that important function. Use IP 71111.21, "Component Design Basis Inspection," Appendix 3, "Component Walkdown Considerations," as a guideline to assess the thoroughness of the licensee's walkdowns and inspections.</p>	
Licensee Action	Describe the licensee's actions to assess the potential impact of seismic events on the availability of equipment used in fire and flooding mitigation strategies.
a. Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.	<p>The licensee's review included walkdowns and inspection of important equipment needed to mitigate fire and flood events. The licensee reviewed the equipment to identify any potential that the equipment's function could be lost during a seismic event appropriate for the site. The licensee completed a review of the fire service and internal and external flooding analysis as described in the design basis for the plant.</p>
	Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.
	<p>The inspectors accompanied and observed engineering perform the walkdowns and inspections on fire protection and flood protection equipment. The inspectors independently walked down other flood protection and fire protection equipment to verify the licensee's conclusions. The inspectors verified work orders existed for equipment deficiencies, and reviewed the licensee's corrective action program to verify issues were being adequately addressed. Licensee flood and fire mitigation procedures were reviewed to verify usability. The inspectors reviewed engineering evaluation EES-99-007, Evaluation of Unit 1</p>

	Smokestack on Diesel Driven Emergency Feedwater Pump Building, to verify that failure of the smokestack during a seismic event would not damage the emergency feed pump building.
	Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee as a result of their reviews.
	For fire protection and flood protection systems, the licensee identified those components that were non-seismic as vulnerable. However, although vulnerabilities were identified, no new issues were entered into the corrective action program because the identified vulnerabilities were beyond design basis and the licensee stated they were satisfying the current requirements.

Meetings.1 Exit Meeting Summary

On April 28, 2011, the resident inspectors presented the inspection results to Mr. J. Franke, Site Vice President and other members of licensee management. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

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S. Cahill, Director, Engineering  
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P. Dixon, Manager Training  
B. Wunderly, Manager, Operations  
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R. Wiemann, Acting Director, Engineering  
I. Wilson, Manager Outage and Scheduling  
J. Franke, Vice President, Crystal River Nuclear Plant  
M. Van Sicklen, Superintendent Operations Training  
R. Llewellyn, Supervisor – Operations Continuing Training

#### Nuclear Regulatory Commission

D. Rich, Chief, Branch 3, Division of Reactor Projects

## **LIST OF DOCUMENTS REVIEWED**

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### **03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events**

SP-746, Diesel Fuel Oil Testing Surveillance Program  
SP-306, Routine Surveillance Log  
PT-911, Portable Power Independent Pump Performance Test  
Topical Design Basis Document External and Internal Flooding  
AAG-05, Contingencies for Loss of SF Pool Level  
AAG-09, Operation of the Portable Power Independent Pump and Support Equipment  
AAG-10, Fire System Management  
AAG-11, Make-up Water to the BWST  
AAG-12, Make-up to EFT-2  
AAG-13, Manual OTSG Depressurization  
AAG-14, Low Pressure Feed of a Depressurized OTSG  
AAG-15, Reactor Building Flood with Portable Power Independent Pump  
EM-913, Integrated Response For A Large Area Fire

### **03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions**

EOP-02, Vital System Status Verification  
EOP-12, Station Blackout  
EOP-14, Emergency Operating Procedure Enclosures  
SP-354B, Monthly Functional Test of the Emergency Diesel Generator EGDG-1B  
SP-354A, Monthly Functional Test of the Emergency Diesel Generator EGDG-1A  
AAG-08, Contingencies for Loss of all AC and DC Power

### **03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design**

P02-0010, "PRA – Internal Flooding," Rev.2  
M91-0019, Allowable Gaps for RWEJ Encapsulation Sleeve, Rev. 1  
M91-1002, Circulating Water Expansion Join Encapsulation, Rev.2  
M90-0014, Feedwater Flood Level in intermediate Building, Rev.0  
PM-5287, Inspect Watertight Doors and Flood Gates  
SP-407, Fire and Flood Barrier penetration Seals

03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events

AP-880, Fire Protection

EDBD 1/3, Major Class 1 Structures, Rev. 3

FSAR, section 2.4.2, Flood Studies and Hurricane Effects

FSAR, section 2.4.2.1, Maximum Hurricane Surge

FSAR, section 2.4.2.2, Hurricane Wave Action and Run-up

FSAR, section 2.4.2.4, Facilities Required for Flood Protection

FSAR, section 2.4.2.5, Embankment Slope Protection

FSAR, section 9.5.2.1.6, Failure Considerations for the Decay Heat Seawater System (RW)

FSAR, section 9.5.2.3.2, Failure Considerations for the Circulating Water system (CW)

EM-220, Violent Weather

AP-1040, Auxiliary Building Flooding

AP-1050, Turbine Building Flooding

### **LIST OF ACRONYMS USED**

ADAMS	Agencywide Documents Access and Management System
CFR	Code of Federal Regulations
NRC	United States Nuclear Regulatory Commission